

BUSINESS HELP

INTRODUCTION

If you want to print brochures, adverts or headed notepaper using a commercial printer, life is a little more complicated than sending a Word document in an email. The equipment used by printing companies is quite different to the sort of printers you find in homes and offices.

The easiest option is to send your files to an agency, but there's nothing to stop you saving some cash and talking to the printing firm directly. And with this article in hand, what you want to produce and what actually comes out of the printing presses should be the same thing.

We'll explain the differences between common or garden PDFs that you might find on the web and the sort of files that graphic reproduction houses require. You will even learn some of the jargon that you'll need to understand if you're going to be able to communicate effectively with printing companies.

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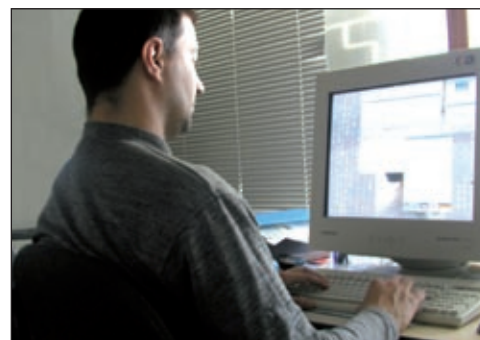
Printing via PDF

Adobe's PDF is the industry standard for sending documents for commercial printing. However, as Adam Banks explains, you must understand the process to ensure your PDFs print correctly

Q My company is planning a marketing push and it will involve producing brochures, flyers and possibly a product catalogue. These will need to be printed on a commercial press, which is something that I haven't been involved with before.

However, I understand that most printers can now work from files in Adobe's Portable Document Format (PDF), which can be generated from many PC applications. Is this correct and, if so, would we be able to use ordinary software such as Microsoft Office to produce these documents?

Ian Costello



A Adobe created PDF as a universal, general-purpose format for exchanging documents electronically. It's certainly been successful in that role. It's also been adopted in the more specialised market of digital reprographics, and most commercial printers now accept PDF files. Along with other advances in desktop publishing (DTP), this removes some of the traditional hurdles in getting a document from your PC screen on to a press. But it doesn't make the process foolproof. While a PDF workflow, as it's known in the trade, can be simple and smooth, there are still a number of technical issues to consider.

It's also important to remember that designing printed documents is a skilled trade in itself, and just because you have the facilities to make it happen, that doesn't guarantee professional results.

ONE FOR ALL?

The multi-purpose nature of PDF is both a strength and a weakness. You can now generate a PDF from almost any PC application. Although PDF export isn't built into Microsoft Office, the Save as PDF or XPS add-in for Office 2007 is available from <http://tinyurl.com/v46jc>. There are also plenty of third-party PDF plug-ins. Visit <http://tinyurl.com/mfezm> for details. Many cheap or free PDF generators, such as deskPDF from www.docudesk.com, allow export from any program via the Print command. You can also convert existing documents to PDF using online services such as www.pdfonline.com.

However, the resulting PDFs may not be suitable for press output. Documents may have everything in the right place, but that doesn't mean they'll go through a printer's repro equipment and print correctly. There are thousands of ways to format a PDF, and some critical settings aren't handled by these utilities.

For example, a press-ready PDF must use the correct colour space. Documents for onscreen viewing are stored in RGB, matching the red, green and blue cells that make up a monitor image. For printing the format is CMYK, for cyan, magenta, yellow and black inks. When you print a file to your own inkjet, colours are converted automatically, but this isn't normally the case with commercial printing.

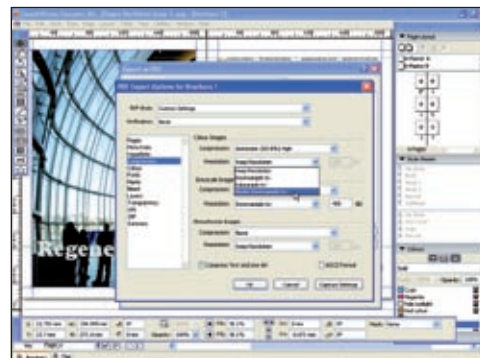
Traditionally, only serious desktop-publishing software supported CMYK workflows. For any photos or graphics in your layout, you would need to convert each image file from RGB to CMYK, using image-editing software such as Photoshop, and save it as a CMYK TIFF

file before importing it into your layout. Affordable DTP software such as Serif PagePlus X2 also supports CMYK, and whether you use this or one of the two professional DTP options – Adobe InDesign or QuarkXPress – it's not essential to place CMYK images. You can leave them in RGB format, probably saved as JPEG files, then tell the software to convert everything to CMYK when creating the final PDF.

This isn't usually handled by office software with PDF plug-ins or drivers, nor would you be able to create press-ready layouts using something like Word. While it may be possible to combine text and images in a DTP-like way, the underlying graphics engines in these types of applications aren't up to the job. Aside from colour issues, typographic controls are inadequate and there are no proper facilities for designing double-page spreads (where two pages face each other in a bound document).

Having said that, many print shops will happily output Word documents, using various types of press, and the results may be fine for a business report or handout. Rather than taking a PDF from you, the printing company may prefer to work from the original Word document. You then need to ensure that the fonts you've used are also available on the printer's computer, which may mean supplying the font files from your PC as well as the Word file.

This need to supply fonts is another traditional DTP requirement that can be avoided by using PDF. Fonts can be embedded in the PDF file, avoiding errors caused by missing fonts or different versions of the same font. However, badly encoded fonts, including some of those



▲ DTP software will generate press-ready PDFs with all the necessary controls available. You'll get only a fraction of these options using a basic PDF converter



Going portable Understanding PDF settings

Professional layout software will give you control over all aspects of PDF creation. Here are some of the main settings to look for.

COLOUR CONVERSION

If colour values are left 'as is' when the PDF is created, any images in your document need to have been saved in CMYK format. Any colours created within the DTP software must be CMYK, or they'll come out in black and white, or worse. Modern DTP programs can convert between colour spaces: specify a destination space appropriate to the printing press by selecting an ICC colour profile (use Euroscale Coated v2 if in doubt). All colour values are converted to this during PDF export.

IMAGE COMPRESSION

When you place an image in a page layout, you can resize it as you like; the image will be processed from the original linked file when the page is output to PDF. For best results, there should be 300 pixels in a colour image for every linear inch in the final output size. For example, an 1,800x1,200 pixel image would print well at 6x4 inches.

Fewer pixels give reduced quality. If there are more pixels, because you've placed a very high-resolution image file and scaled it down, the image will look OK, though perhaps not as sharp as it could be. However, the PDF file may be large. To avoid this, your software can downsample images to a specified resolution on output, normally 300dpi for colour images, or apply JPEG compression (use the highest quality setting).

TRANSPARENCY FLATTENING

InDesign and QuarkXPress support a range of transparency effects, such as adjusting opacity and adding soft shadows. Many of these can't be included directly in PDF files, so on export they're flattened. A finished page in a PDF file will be sliced into multiple rectangular sections so the majority remains vector-based, for maximum output quality, while flattened sections are rasterised (converted to a bitmap image), usually at 300dpi.

Incorrect colour conversion settings can result in these sections failing to match, giving visible colour shifts at the boundaries, but this shouldn't normally happen. However, black text can get fuzzy in rasterised slices. To avoid this, bring text frames to the front in your layout where possible. Because the black plate is overprinted, the text needn't be rasterised where it overlaps transparency effects.



▲ Joins are sometimes visible as faint lines when the PDF is viewed onscreen, but should be invisible in print

FONT EMBEDDING

Opt to embed fonts in the PDF. Fonts are normally 'subsetted' so that only the characters actually used in the document are included.

BLEED, TRIM AND MARKS

Any graphics intended to print right up to the edge of a page must extend off the page in your layout to allow for printing inaccuracies. The actual page size is the trim and the extra area around it is known as the bleed. When you output a PDF you set the bleed, which is usually 3mm on each side. Everything on your pages as far as this point will appear in the PDF, with the rest cut off. It's also usual to add crop marks, which are lines outside the page, indicating its corners. Registration marks help the printer line up the plates, and colour bars provide a quick check that all the plates have been correctly printed. You should include them all.

SINGLES, SPREADS AND IMPOSITION

Imposition means arranging multiple pages on a larger printed sheet so that they'll form a multi-page publication when folded and cut. This is handled by the printer. For a booklet or magazine, you'll lay out pages as spreads, with each pair of facing pages designed side by side, but the printer will normally require these to be separated in the PDF. Do this by unticking the Spreads option when exporting the PDF. You may be asked to supply a separate PDF for each page.

found in 'one million fonts for a tenner' DVDs or online, can still cause glitches. There are also legal issues with copying commercial fonts from one system to another. Fonts are copyright-protected and you might be breaking the law unless the printer already owns or buys the same selection of fonts.

For anything beyond basic business documents, printers won't be interested in Word files or PDFs generated from them. They'll need proper layouts supplied as press-ready PDFs. This means using DTP software with PDF export facilities. You could get away with Serif PagePlus X2, which is very good value at around £100 including VAT, but it might make more sense to invest in Adobe InDesign or QuarkXPress.

GOING PROFESSIONAL

QuarkXPress 7 is expensive at around £800 including VAT, although there are ways to get it cheaper, such as obtaining an older version and upgrading. The other option is Adobe InDesign CS3. This is equally capable, and in some ways more user-friendly, package costs around £600 including VAT. It is even better value when bought as part of Adobe Creative Suite Design Standard, which bundles InDesign with Photoshop and Illustrator, Adobe's drawing package, for around £1,000.

Creative Suite also includes Acrobat Professional. This takes control over PDF production to another level, allowing you to customise, automate and check PDF files and use Job Description Format (JDF) tagging to exchange technical details with the printer. This

isn't essential for occasional marketing jobs, but knowing about it acts as a reminder that when people discuss PDF print workflows they are not talking about pushing a button marked 'Create PDF'.

You can use Acrobat, which is also available separately, to output PDFs from other programs, including Microsoft Office 2007. However, our warnings about using productivity software to design page layouts still apply.

GETTING IT RIGHT

We've summarised the main PDF options you should be aware of in the 'Going Portable' box above. Your printer should advise on the best settings, or ideally provide a job options file for InDesign, Acrobat or QuarkXPress. Unfortunately, some printers will just ask for a standard PDF. There's no such thing, so you'll have to make an educated guess. InDesign's Press Quality preset will often work. Another common choice is the industry standard PDF/X-1a, which is dated now but widely used in publishing. Both of these will convert RGB images to CMYK as necessary.

These presets are available at the top of the Export Adobe PDF dialog, which appears when you go to File, Export and set the format to Adobe PDF. They govern most of the individual settings shown in the various panes of the dialog, which you can also adjust manually. Aside from choosing suitable output settings, you also need to make sure that Transparency Blend Space, on the Edit menu, is set to Document CMYK. In Colour Settings, on the same menu, choose Europe Prepress 2 or Europe General Purpose 2 in

the Settings drop-down menu. QuarkXPress 7 doesn't come with this kind of preset option, so you'll have to rely on your printer's advice or figure out the settings using the tips given here.

You may also want to preflight the document to make sure there are no problems. InDesign can't check the finished PDF – you need Acrobat for that – but its preflight tool, available from the File menu, will spot issues such as images placed at too low a resolution, missing fonts and so on. It also identifies images placed in RGB rather than CMYK format, although, as you now know, that isn't a problem if you're converting to CMYK when outputting the PDF. QuarkXPress 7 has preflighting built in, but this is tricky to use from scratch because of the lack of presets. Various third-party applications and online services are available to preflight finished PDFs.

DO IT YOURSELF

None of this should put you off commercial printing or using PDFs. As long as you know the basics and pay attention to your printer's instructions, today's prepress workflows are much less daunting than they used to be. Designing your documents is the hardest part, and your company might be wise to approach a local agency or an experienced freelance designer.

If you'd like to learn the skills yourself, both InDesign and QuarkXPress come with extensive onscreen help and tutorials, with plenty more available around the web; try www.pixel2life.com. You can also buy training materials from suppliers such as www.lynda.com. ☐